

REMARKS

Upon entry of the present amendment, claims 18-46 will be pending. Claims 18, 26, 32, 36, 38, and 41 have been amended for clarity. New claims 43-46 have been added. All amendments and new claims are fully supported by the present application as filed. No new matter has been added.

Rejections Under 35 U.S.C. § 103(a)

Fortunati in view of JP '999

Claims 18-21 and 23-42 have been rejected for alleged obviousness over WO 00/15880 to Fortunati ("the Fortunati reference"), "as evidenced by" U.S. Pat. No. 5,908,511 to Bianchi ("the Bianchi patent") in view of JP61-276999 ("JP '999"). The Office alleges that the Fortunati reference discloses a steel pickling solution having the characteristics of the presently claimed process solutions, except regarding the inclusion of complex fluoro acids of silicon. The Office further contends that JP '999 remedies this deficiency by teaching the addition of fluorosilicate to a sulfuric acid based steel pickling solution in order to increase pickling rate (*see* 6/8/10 Office Action at pages 3-4). Applicant request reconsideration because the posited combination of references does not result in any claimed invention.

To the extent that a person of ordinary skill in the art would have been motivated to combine the disclosure of JP '999 with that of the Fortunati reference (a point that is not necessarily conceded by the Applicant), the resulting combination would only be relevant to an *electrolytic* pickling process, which is different from and incompatible with the pickling processes according to the present claims. JP '999 relates exclusively to electrolytic pickling, which requires the exposure of the process solution to an electric current in order to bring about the desired reaction conditions – as stated by the reference,

The present invention solves the problems of the method
of acid pickling of a Cr-containing steel plate by electrolytic
pickling the Cr-containing steel plate

See JP '999 at page 5, first full paragraph¹; *see also* page 2, first paragraph; page 5, last paragraph; pages 9-11, last column of Table 1, listing the duration of electrolysis for each working example. In fact, JP '999 specifies that certain components of the disclosed process are included specifically for the purpose of improving the electrolytic function of the process. For example, JP '999 provides that

According to the present invention, sulfuric acid, which is used as the base compound, is added to the solution so as to increase the lytic action and conductivity of the oxide film.

See JP '999 at page 6, first full paragraph. In addition, the reference states that

As for the polarity of the electrolytic acid pickling, according to the present invention, normally, the steel plate is used as the anode.

See *id.* at page 7, second paragraph. Accordingly, the entirety of JP '999 concerns the disclosure of an exemplary **electrolytic** pickling process.

The Fortunati reference discloses conditions for the preparation of an electrolytic pickling process that is used as an initial treatment stage, and also separately discloses conditions for the preparation of a chemical pickling process that is employed as a "final treatment" (*see* Fortunati reference at page 3, final paragraph, referring to "electrolytic treatment" followed by a "final treatment of passivation and/or pickling"; *see also* Example B, page 8, listing "electrolytic pickling" as step B.2 and "chemical pickling" under different conditions as step B.3; *see also* claims 15-17, directed to processes that include both an electrolytic pickling stage and a non-electrolytic or chemical picking treatment). The Fortunati reference lists the chemical components for use in the later "chemical pickling" stage separately from the chemical components that are used in the earlier electrolytic pickling process (*see* Fortunati reference at page 7, three lines from bottom of page).

¹ The present communication refers to JP '999 in accordance with the pagination of the official translation that was provided by the Office.

Thus, the Fortunati reference refers to separate processing steps during which electrolytic pickling and chemical pickling, respectively, are performed. The distinction between electrolytic pickling – which requires the use of an electric current in order to function – and chemical pickling – which is fundamentally different in that it involves a reaction that occurs by virtue of the chemical components alone – is well known among those skilled in the art, which is illustrated at least in that the Fortunati reference itself distinguishes between these two types of processes. Accordingly, to the extent that a person of ordinary skill in the art would apply the conditions of JP ‘999, which exclusively concerns *electrolytic* pickling, to the Fortunati reference, the skilled artisan would modify only those portions of the Fortunati reference that concern *electrolytic* pickling. Furthermore, the resulting combination would exclusively consist of a process for *electrolytic* pickling.

The instant claims concern processes for *chemical* pickling, and do not disclose methods for *electrolytic* pickling. A person of ordinary skill in the art would readily appreciate that the present application as filed does not concern electrolytic pickling, as only conditions for chemical pickling are disclosed, and any reference to electrolysis is omitted, both in the detailed description and in the working examples. To clarify this point, the claims have been amended appropriately, *i.e.*, to specify that the recited pickling processes are non-electrolytic, *i.e.*, are chemical pickling processes.²

The posited combination of JP ‘999 (which solely concerns electrolytic pickling) with the relevant portions of the Fortunati reference (*i.e.*, those aspects of the reference that also concern electrolytic pickling) cannot be said to teach or suggest any claimed invention. First, the posited combination results in a process for *electrolytic* pickling, which is distinguishable from non-electrolytic, chemical pickling processes, such as those of the present claims. Second, to the extent that the Fortunati reference can be said to disclose certain conditions for non-electrolytic,

² It is well established that the written description requirement does *not* require a patent applicant to provide a verbatim description of his claimed invention. *Union Oil Co. Of Cal. v. Atl. Richfield Co.*, 208 F.3d 989, 997-1001 (Fed. Cir. 2000). Rather, the test for sufficiency of support in a patent application is whether an applicant’s disclosure “reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.” *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991) (citing *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985)).

chemical pickling, the disclosed conditions do not fall within the scope of the present claims. For example, as admitted by the Office, the Fortunati reference does not disclose or suggest the inclusion of complex fluoro acids of Si, as required by the present claims.³ Furthermore, the Fortunati reference does not disclose the use of “less than 10 g/l of free fluoride ions and/or hydrofluoric acid” (as required by the present claims) in the context of non-electrolytic, chemical pickling processes; the Fortunati reference only teaches the use of 10-40 g/l of HF for the disclosed chemical pickling processes, which is outside of the range of the present claims (*see* Fortunati reference at page 8, first line; *see also* page 8, fourth line from bottom of page; claim 17). Accordingly, neither the combination of the Fortunati reference with the JP ‘999 (if it were assumed, strictly for the sake of argument, that a person of ordinary skill in the art were so motivated) nor the portions of the Fortunati reference that pertains to non-electrolytic, chemical pickling, discloses or suggests the subject matter of any of claimed invention.

Regarding claim 32, none of the cited references discloses the use of a complex fluoro acid to brighten or passivate a chemically pickled steel surface. For example, JP ‘999 discloses the use of complex fluoro acids of silicon or boron for *electrolytic* pickling, but not for *brightening* or *passivating* an already *chemically* pickled steel surface. Neither the Fortunati reference nor the Bianchi patent discloses the use of a complex fluoro acid in any context. The subject matter of claim 32 is therefore distinguishable over the cited references, either alone or in combination.

For at least the preceding reasons, a *prima facie* case of obviousness has not been presented, and the rejection of claims 18-21 and 23-42 under § 103(a) should be withdrawn.

Fortunati in view of JP ‘999 in further view of Bianchi

Claim 22 has been rejected for alleged obviousness over the Fortunati reference in view of JP ‘999 in view of the Bianchi patent. The Office has alleged that the Bianchi patent remedies the deficiencies of the Fortunati reference and JP ‘999 with respect to the use of a pickling

³ Applicant reiterates that although the Office has argued that JP ‘999 does disclose the use of complex fluoro acids of Si, the disclosure of JP ‘999 is limited to *electrolytic* pickling processes, and a person of ordinary skill in the art would readily appreciate that conditions that are suitable for use in connection with an electrolytic pickling process would not necessarily function in the context of non-electrolytic, chemical pickling processes.

solution in the form of a gel or paste. However, the Bianchi patent does not remedy the shortcomings of the posited combination of the Fortunati reference with JP ‘999, as described above. The disclosure of the Bianchi patent regarding gels and pastes does not alter the fact that the teachings of JP ‘999 are strictly limited to electrolytic pickling processes, and that to the extent that the Fortunati reference can be said to disclose certain conditions for non-electrolytic, chemical pickling, the disclosed conditions do not fall within the scope of the present claims. Accordingly, the rejection of claim 22 should be withdrawn.

New Claims

New claims 43-46 specify that the recited pickling process uses a process solution that contains less than 1 g/l of free fluoride ions and/or free hydrofluoric acid. The Office has presently cited the Fortunati reference in order to contend that every component of the claimed pickling processes other than the complex fluoro acids of Si were known in the context of a single reference. However, it is noted that, regardless of whether the context is electrolytic pickling or chemical pickling, the Fortunati reference does not disclose an amount of HF that is less than 1 g/l. *See, e.g.*, Fortunati reference at page 9, disclosing that for electrolytic pickling, HF may be present in a concentration “of from 1 to 20 g/l” & page 8, line 2, providing that for chemical pickling, HF may be present in an amount of “from 10 to 40 g/l”. Thus, the Office cannot rely on the Fortunati reference in order to contend that new claims 43-46 are allegedly obvious. For at least this reason, the new claims are nonobvious over the cited prior art.

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DOCKET NO.: HENK-0208/H5716-1
Application No.: 10/531,113
Office Action Dated: June 8, 2010

PATENT

Conclusion

Applicant submits that the foregoing represents a bona fide attempt to advance the present case to allowance, and that the application is now in condition therefor. Accordingly, an indication of allowability and a Notice of Allowance are respectfully requested. If the Examiner believes that a telephone conference would expedite prosecution of this application, please telephone the undersigned at 215-568-3100.

Date: November 8, 2010

/David B. Hoffman/
David B. Hoffman
Registration No. 62,835

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439